REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Claims 11-24 are pending in the application.

Claims 12-21 have been amended to correct the dependency from 1 to 11. No new matter has been added. No claims have been amended to overcome prior art. The full doctrine of equivalents applies to each and every claim element.

In response to the objection of claim 11-24 on page 2 of the pending Office Action, claims 11-24 have been set forth above in one and one-half line spacing. Accordingly, withdrawal of the objection to the claims is respectfully requested.

The rejection of claims 11-24 under 35 U.S.C. § 103 as being unpatentable over U.S. patent No. 6,062,547 (Nilsson) in view of U.S. patent No. 4,773,918 (Kohl) is respectfully traversed. The claimed invention is not obvious from the theoretical combination of Nilsson and Kohl for the following reasons.

The claimed invention utilizes an essentially water-free based liquid as a cooling medium within the gasification vessel. The Examiner admits on page 3 of the Office Action that "Nilsson '547 fails to disclose the cooling medium (9) consists of an essentially water-free cooling medium." The Examiner cites column 7, lines 48-55 of Kohl as teaching to use a water-free cooling medium.

Present claim 11 does not merely recite using a water-free cooling medium. Rather, claim 11 recites the step of "cooling the phases by direct contact with the cooling medium" and then the phase of flammable gaseous material is separated from the phase containing solid and/or fused material. The cooling medium is essentially water-free. The combination of Nilsson and Kohl does not teach these method steps.

Kohl clearly teaches the method of cooling a hot combustible gas using water. See column 5, lines 10-19 of Kohl, which teaches that the combustible gas flows through a drying zone where it "heats and causes water to be evaporated" ... "the combustible gas is therefore cooled as it passes through the drying zone." Thus, Kohl clearly teaches cooling using water. See also column 6, lines 59-68 of Kohl, which teaches using "water inlet 70" to cool the gaseous phase and form steam.

The Examiner argues on page 3 of the Office Action that:

> Kohl '918 teaches the essentially water-free cooling medium or gaseous fuels (oil, petroleum coke, natural gas, volatile hydrocarbons can be added directly to the product gas to raise its heating value (col. 7, lines 48-55). Thus, it would have been obvious in view of PCT /384 to one having ordinary skill in the art to modify the gasification process of Nilsson '547 with the cooling medium as taught by Kohl '918 in order to increase the heating value of the product gas (flammable gaseous material). Note, the properties of gaseous fuels of Kohl '918 have a much lower temperature than the product gas (flammable gas material); thus, the gaseous fuels act as a cooling medium, which inherently cool the product gas.

Applicant respectfully submits that Kohl does not teach that the oil or petroleum coke is added directly to the product gas. Kohl actually teaches that the "product gas heating value can be increased, if desired, by introducing a high heating value fuel such as **oil or petroleum coke into the gasification zone**; increasing the temperature of the air feed, or reducing heat losses, by adding insulation, for example. Gaseous fuel such as natural gas or volatile hydrocarbons can, of course, be added directly to the product gas to raise its heating value." (emphasis added) See column 7, lines 48-55 of Kohl. The gasification zone is the burner. Thus, Kohl teaches to heat the high heating value fuel, oil or petroleum coke, using the burner. This teaching is opposite to the present invention, in which the essentially-water free cooling medium is added to the hot gas stream after it has left the burner to thereby cool the exiting hot gas stream. The hot gas leaving the burner in Kohl is only cooled using water as discussed above.

Kohl only teaches that the gaseous fuel, natural gas and volatile hydrocarbons, can be directly added to the **product gas**. The "product gas" is the final gas produced by Kohl's mode of operation disclosed in columns 6 and 7, i.e. after the hot gas leaving the burner is cooled by water, water vapor is removed by contact with condenser 60, and the gas is cleaned by contact with aqueous acid to produce a cool and clean product gas. See column 7, lines 42-47 of Kohl, which states that "this mode of operation will result in the production of a **product gas** of relatively constant composition and heating value." The gaseous fuels referred to by the Examiner are only added to increase the heating value of the final cool and clean product gas. The product gas has been cleaned and cooled using water in Kohl. In contrast, in the

present invention the hot gas phase leaving the burner and the phase containing solid and/or fused material are cooled using an essentially water-free cooling medium. Thus, the temperature of Kohl's gaseous fuel is irrelevant since there is no teaching in Kohl or any other cited reference to use this gaseous fuel to cool the two phases leaving the burner.

Since both Kohl and Nilsson only teach cooling the hot gas stream leaving the burner using water, the combination of these references can only teach using water for such cooling. For this reason alone, the Section 103 rejection should be withdrawn.

Nilsson and Kohl also do not teach or suggest a solution to the problem of carbonation of boiling and splashing green liquor from the product liquid receiver. For this reason alone, the Section 103 rejection should be withdrawn.

Accordingly, withdrawal of the Section 103 rejection is respectfully requested.

In view of all of the rejections of record having been addressed, Applicant submits that the present application is condition for allowance and Notice of such is respectfully requested.

Respectfully submitted,
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